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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/349,380	07/09/1999	JOHN P. JASPER		6566

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EXAMINER

SIEFKE, SAMUEL P

ART UNIT	PAPER NUMBER
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1743

DATE MAILED: 03/24/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 09/349,380	<b>Applicant(s)</b> JASPER, JOHN P.	
	<b>Examiner</b> Samuel P Siefke	<b>Art Unit</b> 1743	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extension of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on arguments 12/29/03.
- 2a) ☒ This action is **FINAL**.      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☐ Claim(s) \_\_\_\_\_ is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 17-41, 45-47, 49, 50, 53, 54 and 70 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All    b) ☐ Some \* c) ☐ None of:  
    1) ☐ Certified copies of the priority documents have been received.  
    2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
    3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                    | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date. _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Response to Arguments*

Applicant argues, "Claims 73-90 are written to a method of linking an unknown composition to known compositions utilizing the steps of the method from the originally presented claims.... Withdrawal of the claims by the Examiner is entirely improper, and Applicant respectfully requests that the Examiner considers claims 73-90 on the merits." As can be seen in the last Office Action, it was stated that newly submitted claims 73-90 are directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: Claim 73 linking the unknown concentrations to known concentrations for analyzing a plurality of stable naturally occurring isotopes. The original claims are directed to just analyzing an isotope and arranging into a mathematical array in a readable form, and not linking an unknown isotope to a known isotope. Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 73-90 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP j 821 .03. Withdrawal of claims 73-90 is therefore maintained as is proper.

Applicant argues, "Claim 17 specifically requires that a concentration of a plurality of naturally occurring stable isotopes in their natural or ambient concentration or in an enhanced concentration of the product itself be analyzed." Claim 17 specifically requires "analyzing a batched product for the concentration of a plurality of the naturally occurring stable isotopes of said product," not ambient concentration or in an enhanced

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concentration of the product itself be analyzed. Applicant is relying on a more defined interpretation of the claims that what they are presented as being. In order to be anticipated the prior art must contain each element of the claimed invention. The first part "analyzing a batched product for the concentration of a plurality of the naturally occurring stable isotopes of said product" is described in Welle. The naturally occurring isotope is Europium, whether or not it is added or not does not have any bearing on claim 17 because once Europium is added it becomes a product and then the concentration is determined. Claim 17 only requires that a concentration of a naturally occurring isotope of a product be determined. This limitation is satisfied.

Applicant argues, "Arranging the concentrations of the isotopes in a mathematical array (table 11, col. 2, lines 36-67)". The arrangement shown in Table II of Welle is in no way even similar to the arrays disclosed and claimed by Applicant. See Table I of the specification." Welle discloses a mathematical array (table II or III) of arranged concentrations, even though they are predetermined abundance ratios they are concentration ratios that are arranged mathematically (numerical data linearly ordered by magnitude).

Applicant argues, Welles abstract discloses a system for tagging products of substances for retrospective identification using controlled abundance ratios. The Examiner acknowledges that Welles using a tagging method and that a taggant is an artificially added. But Welle discloses using naturally occurring isotopes and then determining the concentration of the isotopes and comparing them to the known abundance ratios as seen in tables II and III.

Applicant argues, "Assembling product information (col. 1, lines 5-10). It is entirely unclear how col. 1, lines 5-10 of Welle disclose anything about assembling product information. Assembling product information can be directed to identifying what naturally occurring isotope is in the product. So if europium was to be used in explosive batches for example, the europium would yield a ratio identifying the batch in which the explosive was manufactured, this would be the product information.

Applicant argues, "Measuring the concentration of the isotope in a comparable substance and comparing the concentration of isotopes with the mathematical array to identify the product (col. 1, lines 15-26, claim 1). Again the Applicant is arguing that no taggant is added to the product according to the Applicant's disclosure. See above about this response to the argument presented.

Applicant argues, "Isotopes are chosen based on errors, ratios and the combination of the two (col. 3, lines 1-24, col. 3, lines 66- col. 4, line 16)." The Examiner is referring to when taggants include elements which may be found in the environment to which the tagged substance is exposed, taggant contamination may occur, possibly rendering the taggant code unreadable. This problem can be overcome by comprising the taggant signal from multiple isotopes of an element which has at least three stable isotopes so that one or more of the stable isotopes of this element can be reserved as an indicator of background contamination.

Applicant argues, "The product information is made on a machine (col. 5, lines 66-col.7, line 22). Examiner would like to point to col. 3, lines 54-63, where Welle goes on the state that Table III only comprises of 10% of the possible variations in the

concentration ratios of each of the isotope pairs. Then goes on to state that when two pairs of isotopes are each controlled and measure to within 1% and combined in a single code, there are then thousand unique codes available and goes on to state that three pairs of isotopes can produce over a million unique codes. It is inherent that these possibilities would only be produced by a computer which is a machine.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims **17-22, 25-33, 41, 45, 46, 47, 49, 50, 53, 54, 70** are rejected under 35 U.S.C. 102(b) as being anticipated by Welle (5,760,394).

Welle discloses an isotopic tagging method that comprises analyzing a product for the concentration of isotopes (col. 2, lines 34-67; col. 3, lines 9-63); arranging the concentrations of the isotopes in a mathematical array (table II, col. 2, lines 36-67); mathematical array in a readable form (table II consisting of increasing numbers starting at 0 and increasing to 9); assembling product information (col. 1, lines 5-10); indexing the product information and the readable from to an index (col. 3, lines 9-63; table III;

claim 1,7 and 18); measuring the concentration of the isotope in a comparable substance and comparing the concentration of isotopes with the mathematical array to identify the product (col.1, lines 15-26; claim 1); isotopes are chosen based on errors, ratios and the combination of the two (col. 3, lines 1-24; col. 3, line 66- col. 4, line 16); readable form is a machine readable form of the mathematical array (serial numbers and other numerical indicia; table II and III); the product information is made on a machine (col. 5, line 66- col. 7, line 22); the isotopes are chosen from any of the 224 existing stable isotopes of known elements (Table I); products of claim 32 (col. 5, line 66- col. 7, line 22).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.

4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims **23,24** and **34-40** are rejected under 35 U.S.C. 103(a) as being unpatentable over Welle (5,760,394) in view of Brand et al. (USPN 5,424,539).

Welle discloses an isotopic tagging method that comprises analyzing a product for the concentration of isotopes; arranging the concentrations of the isotopes in a mathematical array; mathematical array in a readable form; assembling product information; indexing the product information and the readable form to an; measuring the concentration of the isotope in a comparable substance and comparing the concentration of isotopes with the mathematical array to identify the product; using inductively couple plasma mass spectrometry to measure the isotope, nuclear magnetic resonance.

Welle does not teach any information regarding the use of dual inlet isotope ratio mass spectrometry and on-line combustion couple to a high-resolution isotope ratio monitoring/mass spectrometry coupled to a gas chromatograph.

Brand teaches that it is well known in the art of chemical analysis that different types of mass spectrometry coupled to gas chromatographs can provide better analysis of chemical compositions, therefore it would have been obvious to one of ordinary skill in the art to modify Welle to include the mass spectrometry coupled to a gas chromatograph for further resolution of specific isotopes in a composition or determination of the isotope by nuclear magnetic resonance (col. 3, lines 5-31).

Regarding claim 24, it would have been obvious to provide product information in a



printable or scrollable form to provide the operator or manufacture for ease of use and determination of the product.

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Samuel P Siefke whose telephone number is 703-306-0093. The examiner can normally be reached on M-F 7:00am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jill A. Warden can be reached on 703-308-4037. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9311 for regular communications and 703-872-9310 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

Sam P. Siefke

  
Jill Warden  
Supervisory Patent Examiner  
Technology Center 1700

March 21, 2004